

# MANAGEMENT OF THE HIV/AIDS FUND

**OF THE NATIONAL HEALTH SECURITY OFFICE**



## GLOSSARY

### **NATIONAL AIDS PREVENTION AND ALLEVIATION COMMITTEE [NAC]**

The NAC was first established in 1991 with the authority and responsibility to formulate policy, plans, and measures to guide implementing agencies in both the public and private sectors in the prevention, response, and management of the challenge of the national HIV epidemic.

### **GLOBAL FUND TO FIGHT AIDS, TUBERCULOSIS AND MALARIA**

#### **[GLOBAL FUND; GF]**

The Global Fund was established in 2002 as a mechanism to channel funds to programs attempting to mitigate the impact of HIV/AIDS, TB, and malaria in low- and middle-income countries.

### **NATIONAL ACCESS TO ARV FOR PEOPLE WITH HIV/AIDS [NAPHA]**

The NAPHA Project was initially implemented by the Ministry of Public Health (MOPH), starting in 2001. The Project helped fill gaps in care coverage for persons living with HIV (PLHIV) in Thailand. NAPHA was an important precursor to the HIV/AIDS benefits package of the National Health Security Office (NHSO) system.

## **NATIONAL AIDS PROGRAM [NAP] INFORMATION SYSTEM**

The NAP information system is a vital tool in the management of the following aspects of HIV/AIDS service implementation: (1) Services; (2) Technical dimensions; and (3) Policy decision-making.

## **90-90-90 TREATMENT CASCADE**

These targets are global milestones to mark progress toward ending AIDS as a public health threat. The targets cover the process from initial diagnosis of HIV through to viral suppression by antiretroviral therapy (ART). The targets emphasize having the earliest HIV detection and prolonging the quality of life for PLHIV for as long as possible. The three 90 targets refer to the following:

1. 90% of PLHIV know their HIV status
2. 90% of people who know their HIV status are on ART
3. 90% of people accessing ART have viral suppression  
(Viral load (VL)  $\leq$  1,000 copies/mL)

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# 1

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## **SITUATION OF HIV/AIDS IN THAILAND**

# SITUATION

# HIV EPIDEMIC IN THAILAND SUGGEST THAT INCIDENCE PEAKED IN 1992 WITH AN ESTIMATED 115,000 HIV TRANSMISSIONS

The first case of HIV/AIDS in Thailand was reported in 1984.<sup>1</sup> Projections of the HIV epidemic in Thailand suggest that incidence peaked in 1992 with an estimated 115,000 HIV transmissions.<sup>2</sup> Initially, the HIV epidemic was concentrated in groups of the population with the highest risk for transmission, including men who have sex with men (MSM), male and female sex workers, and injection drug users (IDU).<sup>3</sup> Of these groups, IDU sustained the highest HIV prevalence rates as measured by the sentinel surveillance, ranging from 30-40% during 1988-92.<sup>1</sup>

HIV/AIDS affects the well-being of those infected, the country's economy, and the public health system. The fact that HIV/AIDS is a chronic disease that requires long-term treatment means that there is a high cost of such treatment and care. It is estimated that the cost of HIV/AIDS treatment in 1995 was about 60,000 baht per year, per case. The direct cost of treatment, including medical and hospital care, was 300,000 baht per year.<sup>3</sup> The indirect costs are difficult to calculate, and include lost opportunity in career, the travel cost for repeated cycles of treatment, and common adverse effects of ART affecting quality of life of persons living with HIV (PLHIV). In addition, the public health system of Thailand in the earlier period was not able to treat the large and rising caseloads of PLHIV.<sup>3</sup>

# 2

## EVOLUTION OF PREVENTION AND ALLEVIATION OF HIV/AIDS IN THAILAND

CONDOM 100%

The Thai public health system took action since the first case report. The Division of AIDS and STIs (DAS) was established in 1987 under the Department of Disease Control (DDC) to oversee the implementation of the response to HIV at the national level. In 1989, the MOPH launched the HIV sentinel surveillance system to track the emergence and trends in HIV by screening for HIV among high-risk populations. In 1992, during the administration of Prime Minister Anand Panyarachun, the prevention and alleviation of HIV/AIDS was set as the top national priority agenda. The Prime Minister also acted as chair of the national HIV/AIDS prevention and alleviation committee. A key strategy was to focus on the sexual transmission of HIV and promote safe sex in all encounters with the potential for transmission. This strategy was embraced by the public and private sector, and Civil Society organizations (CSO) in a united front.<sup>4</sup> The 100% Condom Use Program, spearheaded by Dr. Wiwat Rojanapitayakorn and focused on commercial sex establishments, was developed in 1989. The program was initially pilot-tested in Ratchaburi Province, and subsequently scaled up across the country. The program had a significant effect on slowing the spread of HIV among high-risk populations and lowering the number of sexually transmitted infections (STI) among the general population.<sup>5</sup>



Additionally, Thailand expanded the HIV/AIDS program to prevent mother-to-child transmission (PMTCT) by providing HIV screening and administering ART to pregnant women and their babies. Women were also given a free supply of infant formula to deter them from breastfeeding their newborn (since HIV transmission may also occur via breastfeeding).

The HIV/AIDS prevention and alleviation budget increased steadily from 5 million baht in 1988 to a peak of two billion baht in 1996. This enormous investment of the domestic budget for HIV prevention and alleviation was concrete evidence of the government's commitment to HIV/AIDS prevention and alleviation.<sup>4</sup> Then, in 2003, the Global Fund (GF) joined the effort by providing grants to Thailand for the HIV prevention effort. One of the key projects supported by the GF was the National Access to ARV for People with HIV/AIDS (NAPHA) to expand access to ART for underserved populations around the country.<sup>5,6</sup>

## GLOBAL FUND (GF)

The Global Fund to Fight AIDS, Tuberculosis and Malaria was established in 2002 as a mechanism to channel grant funding and technical assistance to mitigate the impact of HIV/AIDS, TB and malaria for low- and middle-income countries.<sup>7</sup> Initially, Thailand received funding from the GF in the first two rounds of grants. In the first round (2003), the GF provided a five-year grant to cover the period of 2004-2008. This was followed by a six-year grant to cover the period from 2009-2014. This funding was given the name of "Rolling Continuation Channel (1- RCC)" with an emphasis on outreach services and decentralization of control over HIV prevention resources. The GF funding helped support establishing a network of implementing partners in each priority province to expand coverage to all vulnerable population groups. The first round of funding earmarked extra funds for prevention among MSM and for ART. The second round of GF funding supported the creation of the Prevention of HIV/AIDS among Migrant Worker in Thailand (PHAMIT-1) Project, which extended prevention services to the millions of migrant workers living and working in Thailand, mostly from Myanmar, Cambodia, and Lao PDR.<sup>8</sup>

Although Thailand launched the Universal Health Coverage scheme (UCS) in 2002, ARV drugs were still not part of the benefits package at that time. That is because Thailand imported AZT (Zidovudine) for administration to PLHIV as monotherapy at considerable cost, and the cost-benefit of including AZT in the UCS was not yet optimal. The cost of using the imported drug in the face of the increasing number of PLHIV whose disease was progressing to symptomatic infection meant that Thailand had to develop a domestic solution to AIDS treatment. Accordingly, in 2002, the Thai Government Pharmaceutical Organization (GPO) produced a generic, fixed-dose combination of Stavudine, Lamivudine and Nevirapine, namely GPO-VIR®. The fact that users needed to take only one pill a day greatly improved the chances of treatment compliance, and having a domestically-produced therapy reduced the monthly cost of treating HIV infection from 10,000-20,000 baht to only 1,200 baht per month. This also enabled the government to add ART as part of the national essential drug list, making the drugs instantly available to government hospitals throughout the country.<sup>9,10</sup> From that point on, the network of PLHIV support groups took this as an opportunity to urge the Thai government to include ARV as part of the UCS benefits package, which it eventually did in 2006. Still, grants from the GF continued to be an important source of budget in helping PLHIV access ART,<sup>9,10</sup> and coverage expanded steadily. To help PLHIV access the drugs and remain compliant, hospitals formed PLHIV support groups, which operated through Comprehensive and Continuous Care Centers (CCC) attached to government hospitals around the country. CSO, such as the Thailand Network of Positive People (TNP+), was formed to help recruit and train volunteer peer leaders to implement this activity. In addition, the success of GPO-VIR® led to an expanded compulsory licensing effort to include more ARV drugs on the essential medicines list.<sup>11</sup>

**In 2002, the Thai Government Pharmaceutical Organization (GPO) produced a generic, fixed-dose combination of Stavudine, Lamivudine and Nevirapine namely GPO-VIR®**

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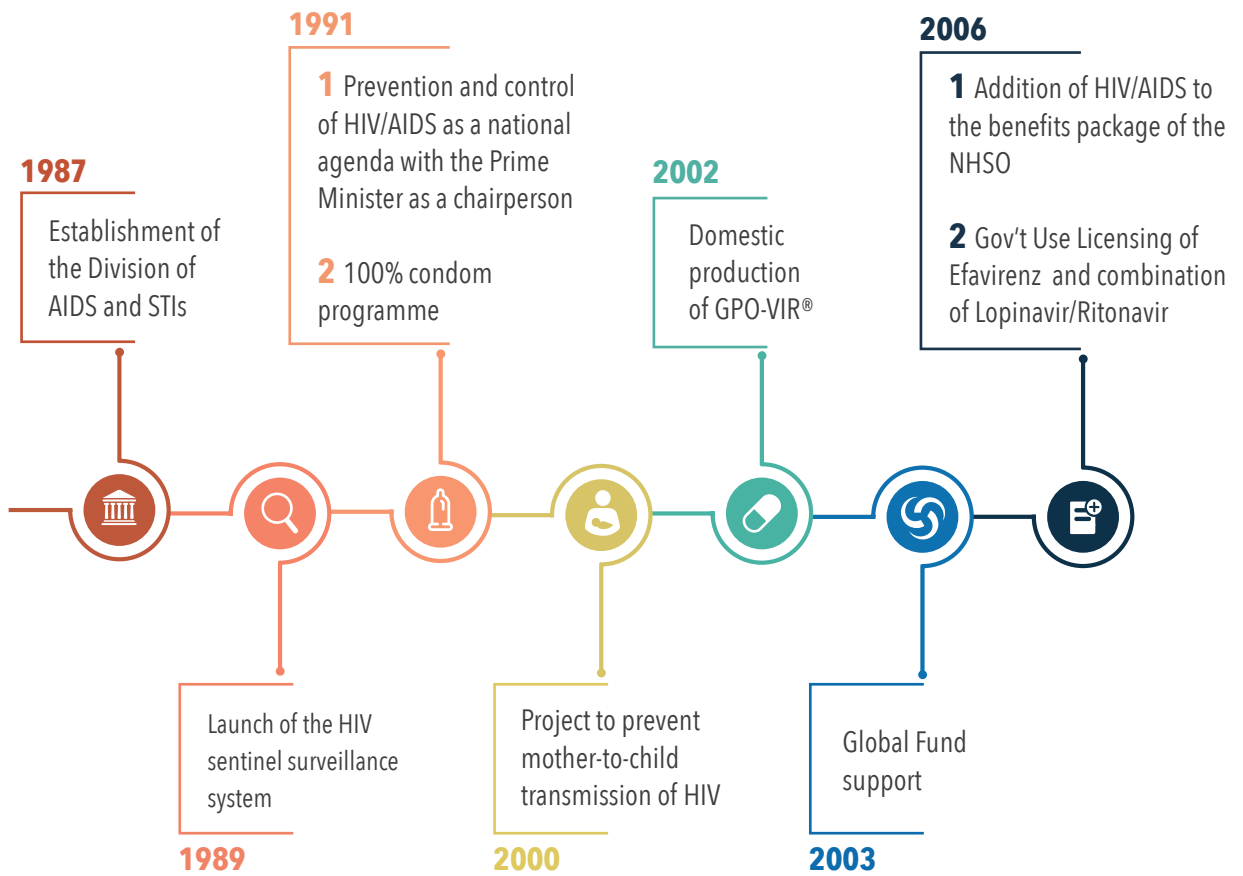
Even though GPO-VIR® had already been proven to be an effective treatment for HIV infection, some PLHIV had low tolerance to the ARV drugs it contained and, over time, resistance to ARVs occurred in many PLHIV who did not or could not adhere to the treatment regimen. Thus, Thailand needed a broader array of ARV drugs as 2<sup>nd</sup> and 3<sup>rd</sup>-line treatments, almost all of which were still on patent. Accordingly, in 2006/2007, Dr. Mongkol Na Songkhla (Minister of Public Health at the time) announced a measure to allow Government Use Licensing (GUL) of Efavirenz and the combination formulation of Lopinavir/Ritonavir at generic drug prices.<sup>12</sup>

## GOVERNMENT USE LICENSING (GUL) OF ARV DRUGS

Pursuing compulsory licensing of Efavirenz and the combination drug of Lopinavir/Ritonavir was intended to make 2<sup>nd</sup>-line treatment affordable for those PLHIV who developed resistance to GPO-VIR® or could not tolerate the side effects of that regimen. GUL was deemed necessary in this case, given the prohibitive cost of the drugs and their life-saving role for tens of thousands of PLHIV. The effect of the GUL action was to reduce the cost of Efavirenz from 1,300 baht per month by half.<sup>11</sup> The number of PLHIV who were taking Efavirenz increased to 17,959, resulting in 2,694 Quality-Adjusted Life-Years (QALYs) gained. During the same period, 3,421 PLHIV were able to access Lopinavir/Ritonavir.<sup>13</sup>

# FIGURE 1

## KEY MILESTONES IN THE IMPLEMENTATION OF THE THAI NAP



## 90-90-90

Many countries worldwide have endorsed the goal of “Ending AIDS”, which was first proposed as a political declaration at the 2016 High-Level Meeting on AIDS in New York to end the AIDS epidemic by 2030. As a preliminary step, Thailand set the target for achieving the “Three 90s” by 2020 (90-90-90 Treatment Cascade). The three 90 targets refer to the following:

- 1 90%** of PLHIV know their HIV status
- 2 90%** of people who know their HIV status, are on ART
- 3 90%** of people accessing ART have viral suppression, or viral load (VL)  $\leq 1,000$  copies/mL<sup>14</sup>

The NHSO is one of the key agencies supporting Thailand’s effort to end AIDS through financing mechanisms.

## 90-90-90 TREATMENT CASCADE

In 2011, UNAIDS announced the challenge of providing access to ART for the 15 million PLHIV around the world by 2015. The three 90s targets were meant as a guideline on how to progress toward the goal of ending AIDS by 2030.<sup>15</sup>

The three 90s provide a benchmark for tracking progress in expanding ART coverage. The targets refer to the process from the initial diagnosis of HIV infection to viral suppression, which should translate into improved/sustained quality of life for every PLHIV. Early ART is also seen as a key mechanism for secondary prevention of HIV (i.e., treatment as prevention). The targets imply equality of access to diagnosis and treatment for every member of society, with special attention to youth and hard-to-reach members of risk groups who still suffer from society’s stigma and discrimination (S&D) against HIV/AIDS.<sup>15</sup>

# 3

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## IMPLEMENTATION OF PREVENTION AND RESPONSE TO HIV/AIDS IN THAILAND

The prevention and alleviation of HIV/AIDS cannot achieve success without the participation and a sense of shared responsibility between the government, the private sector, and Civil Society. There must be a synchronized approach to integrated implementation of the prevention and response interventions. With the prime minister as a chairperson, the **National AIDS Prevention and Alleviation Committee (NAC)** was established to be the central mechanism to align the three sectors under a shared vision and mission to ending AIDS. The NAC members include representatives from all three sectors.

## **NATIONAL AIDS PREVENTION AND ALLEVIATION COMMITTEE (NAC)**

**was established to be the central mechanism to align the three sectors; the government, the private sector, and Civil Society under a shared vision and mission to ending AIDS.**

The MOPH and NHSO are the key agencies to oversee and support the implementation of health services for PLHIV. The MOPH has the responsibility for defining standards and ensuring that service providers under the MOPH provide UCS beneficiaries with the services they are entitled to. The NHSO is the mechanism to provide financial support and reimbursement for health services rendered. The NHSO requests and allocates budget for services provided to beneficiaries of the UCS. The NHSO also supports capacity building of participating service providers, volunteers, and PLHIV to provide treatment, health promotion, prevention, and disease control.

In addition to the MOPH and NHSO, the network of PLHIV and the CSO are critical members of the health service system, especially in reaching and retaining the high-risk groups. The two sectors are instrumental in policy advocacy to ensure that ARV drugs are included in the benefits package of UCS beneficiaries and manage the CCC network attached to hospitals that provide ART. The volunteers provide counselling to PLHIV on how to remain healthy and resume active and productive lives in society. The volunteers conduct home visits to PLHIV to ensure treatment compliance and that their essential needs are met.<sup>11,16</sup>

# DOMESTIC AND INTERNATIONAL NGOS

## **THE AIDS ACCESS FOUNDATION**

The AIDS ACCESS Foundation was founded in 1991 to work with mass media outlets to advocate for a policy to reduce the deprivation of PLHIV. Since 2003, AIDS ACCESS has been implementing a training program on care and treatment of PLHIV (Regional HIV/AIDS Care and Treatment Training Project) in collaboration with Médecins Sans Frontières and TNP+. The project links with hospitals, clinics, NGOs, PLHIV networks, and volunteers, with a focus on generating concern for youth infected and affected by HIV.<sup>16</sup>

## **MÉDECINS SANS FRONTIÈRES: MSF**

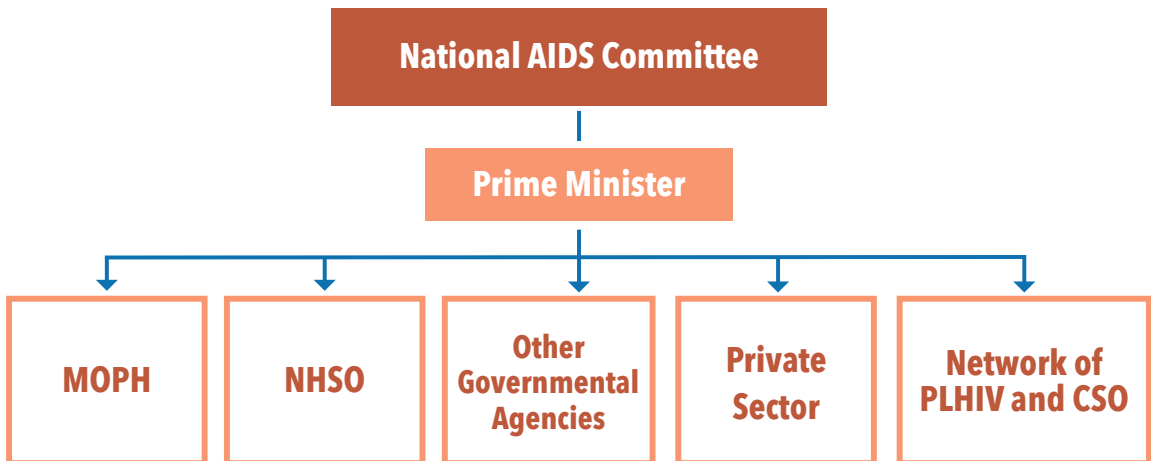
Médecins Sans Frontières (MSF) has been supporting HIV/AIDS projects in Thailand since 1994. Key activities of MSF include technical assistance, advocacy for access to ART, and development of standards for care and treatment in collaboration with the Thai MOPH.<sup>16</sup>

## **THAILAND NETWORK OF POSITIVE PEOPLE : TNP+**

Thailand Network of Positive People (TNP+) was founded in 1998 to address the rejection of PLHIV by mainstream Thai society. The vision of TNP+ is that all PLHIV should be able to live their lives as any other person with dignity and equal opportunity to contribute constructively to society. In 2006, there were over 900 PLHIV support groups with 20,000 members affiliated with TNP+.<sup>16</sup>



**FIGURE 2: THE NATIONAL AIDS PREVENTION AND ALLEVIATION COMMITTEE  
STRUCTURE AND RELATED AGENCIES**



# 4

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## **BENEFITS AND MECHANISM FOR SERVICE REIMBURSEMENT UNDER THE NATIONAL HEALTH SECURITY FUND**

## THE REIMBURSEMENT IS DIVIDED INTO THREE CATEGORIES

- 1 TREATMENT AND RELATED SERVICES
- 2 PREVENTION
- 3 SUPPORT AND PROMOTION OF SERVICES

The NHSO is the key agency that is responsible for financial support for services related to HIV/AIDS. Additionally, domestic and international HIV/AIDS funding/support agencies such as the MOPH, the Comptroller-General, the Social Security System Office, the Global Fund, United States Agency for International Development (USAID), Family Health International, and others, play a crucial role in funding programs. As of this report, over 85% of the national AIDS expenditure is from domestic budget sources. The international funding for HIV programs in Thailand, like the Global Fund, is also trending downward, especially as Thailand can cover most costs by itself and is transitioning out of middle-income-country status.<sup>17,18</sup>

The NHSO allocates the budget for the care of PLHIV and operates a reimbursement mechanism for services rendered. The payment can be cash, pharmaceuticals or medical supplies/equipment according to the designated benefits package. There is also an add-on payment to encourage healthcare units to provide standard quality service to PLHIV and persons at risk of contracting HIV.<sup>19</sup> However, the capitation method is still used to set budget quotas for health promotion and prevention activities, treatment of related complications, or general illness.<sup>20,21</sup> The reimbursement is divided into three categories: 1) Treatment and related services; 2) Prevention; and 3) Support and promotion of services, as shown in Table 1.

**TABLE 1: SUMMARY OF HIV/AIDS BENEFIT PACKAGE UNDER THE UCS****◆ TREATMENT AND RELATED SERVICES**

SERVICES	MODE OF PAYMENT
ARV drugs and lipid-lowering medication	Medications
Laboratory examination	In cash reimbursement per service
Voluntary counseling and testing (VCT)	In cash reimbursement per service
Treatment and counselling for PLHIV	In cash reimbursement per service
Screening and diagnosis of hepatitis C infection (HEP C)	In cash reimbursement per service

**◆ PREVENTION AND RETENTION IN THE TREATMENT SYSTEM**

SERVICES	MODE OF PAYMENT
Condoms	Condoms
Outreach (Reach, Recruit, Test, Treat, and Retain: RRTR)	Capitation according to target groups and set of services
Comprehensive and Continuous Care Center: CCC	Capitation according to target groups and set of services
Pilot project for pre-exposure prophylaxis (PrEP)	Medications
Post-exposure prophylaxis (PEP)	Medications

**◆ SUPPORT FOR SERVICES**

SERVICES	MODE OF PAYMENT
Improvement of quality of care	Add-on payment according to the performance quality criteria

Source: NHSO (2016 and 2020)

**THE ALLOCATED NHSO SPECIAL FUND  
TO SUPPORT CIVIL SOCIETY  
AND PLHIV GROUPS AS PART OF  
THE UCS BENEFITS PACKAGE  
ARE AS FOLLOW :**

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**Fiscal Year 2019 :  
200 Million Baht**

**Fiscal Year 2020 :  
226 Million Baht**

**Fiscal Year 2021 :  
235 Million Baht**

Civil Society and PLHIV groups are key players in prevention, screening, referral of PLHIV for treatment, and providing services at the CCCs. That is because these groups are especially skilled in gaining the trust of the high-risk population (e.g., MSM, transgender people, female sex workers, and injection drug users). The CSO and network of PLHIV know where these groups congregate, and understand the challenges these individuals face in seeking services related to HIV/AIDS. Accordingly, the NHSO set up a special fund to support those groups as part of the UCS benefits package and, in 2019, 200 million baht was allocated. Of this, 172 million baht was earmarked for RRTR activities. The balance of 28 million baht was earmarked for operations of the CCCs.<sup>17</sup> This fund of the NHSO has increased each year and, as of Fiscal Years 2020 and 2021, the amount increased to 226 million baht and 235 million baht, respectively.<sup>22,23</sup>

# 5

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## **OUTREACH SERVICES: REACH, RECRUIT, TEST, TREAT, AND RETAIN (RRTR)**

# RRTTR

The outreach services to bring PLHIV into the service and treatment system under support from the NHSO can be classified as follows:

**1 REACH**

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**2 RECRUIT TO TEST**

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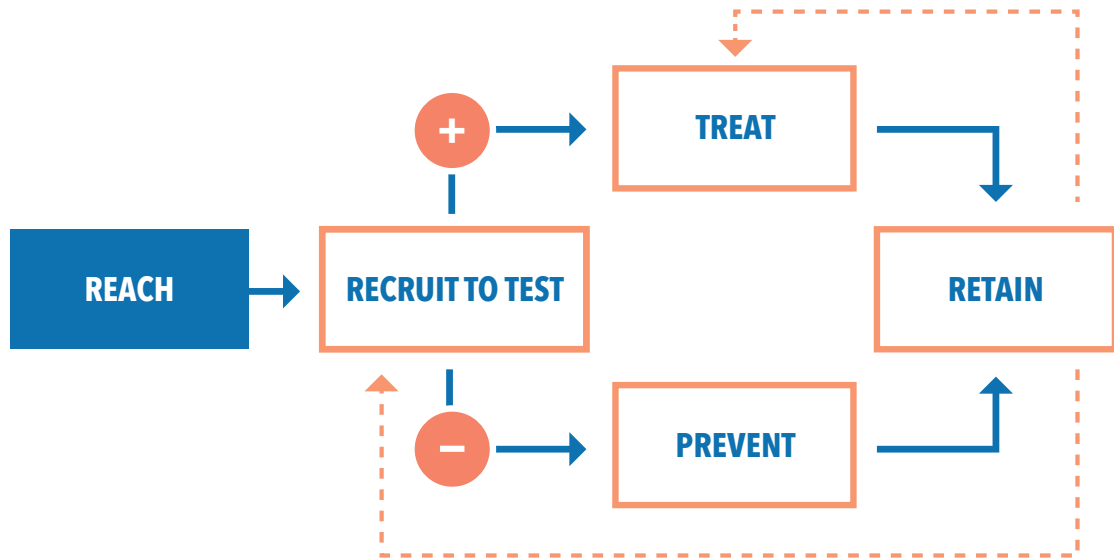
**3 TREAT OR PREVENT**

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**4 RETAIN**

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**FIGURE 3: STRUCTURE OF THE OUTREACH STRATEGY FOR RRTR**



## REACH

This refers to the process of screening the target population proactively, as follows:

- 1** Ideally, the vulnerable members of the community can be reached by peers whom they trust, or through online networks, or even mobile units with staff of the local public health unit or CSO. A common element of the “reach” activity is that it occurs in the community or workplace setting, not the hospital or clinical setting. In most cases, people are reluctant to enter the formal service system because they already suspect they are HIV+ and are either in denial of the need for testing or fear that others will learn of their infection if they are diagnosed. ‘Reach’ also covers those who may be unwilling or unable to go for prevention support at the healthcare unit.
- 2** Outreach usually includes the distribution of prevention supplies even if the target individual has not yet decided whether to go to a clinic or hospital for services. These supplies are typically condoms (both male and female), sterile needles/syringes for injection drug users, and educational material to raise awareness of prevention practices.
- 3** Outreach involves using educational media to increase accurate knowledge about HIV/AIDS, explain the benefit of HIV testing, describe how ART can help PLHIV live as normal a life as possible, and provide guidance on where to access such services.<sup>24</sup>



## RECRUIT TO TEST

After reaching the target population, the next step is to refer them to an HIV testing service. Those who are HIV+ can begin ART immediately. This step represents the bridge between prevention and treatment and is the crucial link in the chain to ending AIDS. A clear referral network is vital for quality of service.<sup>24</sup>

## TREAT OR PREVENT

If the HIV test result confirms HIV infection, then that person will be referred for relevant services. This has the dual effect of promoting the health of the newly-diagnosed PLHIV and preventing secondary transmission. On the other hand, those who are HIV-negative are invited to enroll in one of a variety of prevention strategies. For example, those who cannot easily avoid being exposed to the risk of transmission of HIV may be eligible for pre-exposure prophylaxis (PrEP). Others, who feel they may have recently been exposed to HIV, may be eligible for post-exposure prophylaxis (PEP). Clinical personnel who are accidentally exposed to the infection through contact with contaminated instruments or fluids are eligible for HIV occupational post-exposure prophylaxis (HIV oPEP). Another category of prevention is for non-occupational post-exposure prophylaxis (HIV nPEP). Finally, there is the prevention of mother-to-child HIV transmission (PMTCT) for HIV+ pregnant women.<sup>24</sup>

## RETAIN

In order to be effective, the ARV drugs need to be taken strictly according to the prescribed dose and schedule. Otherwise, viral suppression is not achieved, and drug resistance might develop. Thus, PLHIV on ART need regular checkups to measure the level of virus in the bloodstream (i.e., viral load or VL) as evidence that the PLHIV is complying with the treatment regimen and the drugs are being effective in combatting the virus. For this reason, all PLHIV on ART must remain within the follow-up system, even when their VL is suppressed, and they feel perfectly healthy. Similarly, the HIV-negative contacts need to be retained in the prevention and follow-up system as long as they continue to have episodes of risk for HIV infection. The retention of both HIV+ and HIV- persons in the system may be difficult if the cost of travel to and from the clinical facility is a barrier or if the individual fears being stigmatized by having to go for repeat checkups. Thus, the service staff and counsellors need to be especially skilled in being sympathetic and persuasive to keep as many PLHIV and persons at risk of HIV infection in the treatment and prevention system.<sup>24</sup>

# 6

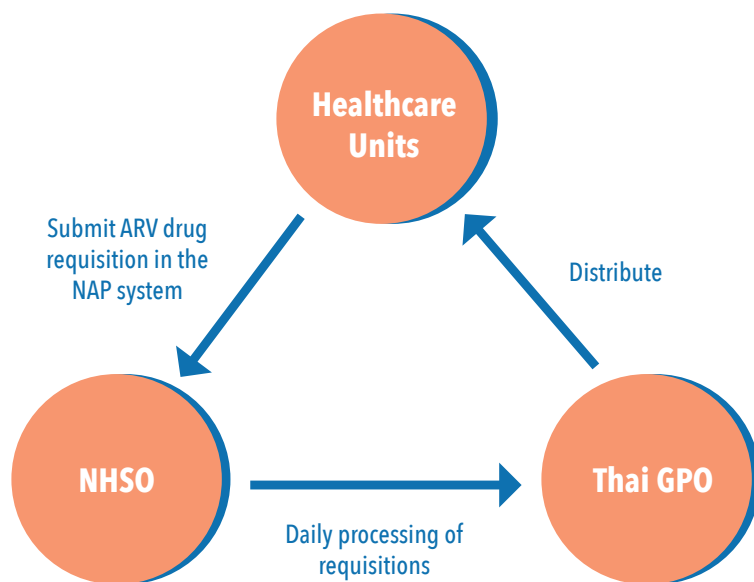
## MANAGEMENT OF ARV DRUGS AT THE NATIONAL LEVEL

Management of ARV drugs in the UCS is based on national and centralized management to ensure the accessibility of PLHIV to ARV drugs, and deter the healthcare unit to require PLHIV to pay for ART. Furthermore, a centralized system enables PLHIV to receive ART resupply from any participating provider in the country.<sup>21,25</sup> Because PLHIV have to take ARV drugs throughout their life, a key to compliance with the regimen is making the ARV pill size, shape, and color the same for any outlet. If the same drug is provided in different sizes, shapes or color, that could confuse the PLHIV and lead to non-compliance with the regimen.

The drug and medical supplies management system related to HIV/AIDS covers the process of selecting drugs, quantity estimates, procurement, stock control, and distribution. The Thai GPO plays a vital role in managing ARV drugs, including manufacturing, purchasing, inventory management, and distribution to service providers. Proper management of the storage and distribution of ARV drugs is essential in reducing wastage due to excess stocks, avoidable drug expiration, and maintaining a constant and consistent reserve supply to prevent stock-outs. Under the UCS, Thailand uses the Vendor Managed Inventory (VMI) system, which was first introduced in Fiscal Year 2006.<sup>21</sup>

The process of dispensing ARV drugs to the healthcare unit starts once the unit submits a requisition for drug supply via the NAP information system (developed by the NHSO and discussed below). Next, the NHSO assembles all the requisitions and refers these to the GPO for processing.<sup>21</sup> (See Figure 4.)

**FIGURE 4: PROCESS FOR STOCKING AND DISTRIBUTION OF ARV DRUGS**



Source: Bhakeecheep (2017)

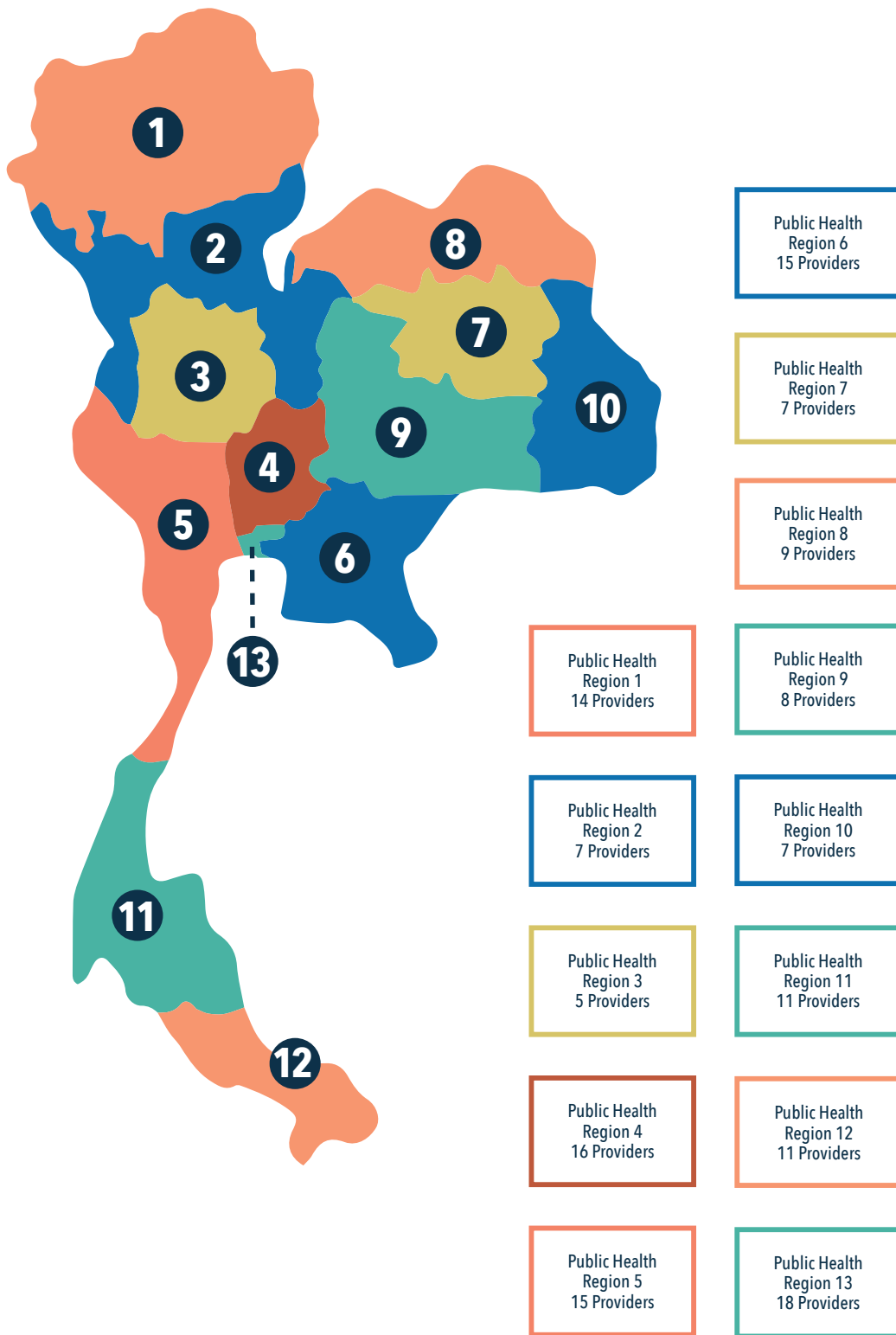
# 7

## HIV/AIDS HEALTHCARE UNIT

Healthcare units which are participating members of the UCS are eligible for reimbursement for HIV/AIDS services rendered from the NHSO. Service providers can be classified into the following:

- 1 ART healthcare unit
- 2 VCT healthcare unit
- 3 HIV/AIDS laboratory unit

The competence of the various service providers varies from site to site. The first group of personnel performs the broadest range of services, including screening, counselling, prescribing ART (1<sup>st</sup>-, 2<sup>nd</sup>-, and 3<sup>rd</sup>-line ARV drugs), and treating opportunistic infections (OI). Providers who dispense 3<sup>rd</sup>-line ARV drugs need to have the approval of a supervising physician. At the time of this writing, Thailand had 143 sites with the capacity to provide 3<sup>rd</sup>-line ARV drugs, and located in all 13 health zones of the country.<sup>19,26</sup> (See Figure 5.)



**FIGURE 5: NUMBER OF SERVICE PROVIDERS OF 3RD-LINE ARV DRUGS BY ZONE** Source: NHSO (2016)

# 8

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## **INFORMATION SYSTEM OF THE NATIONAL AIDS PROGRAM (NAP INFORMATION SYSTEM), MONITORING AND EVALUATION SYSTEM**

# 8.1

## NAP INFORMATION SYSTEM

In 2006, the NHSO added HIV/AIDS care to the benefits package of the UCS. A complete and up-to-date information system is required for effective HIV case management. The following describes the three main users of the NAP information system:

- 1 Services:** Those healthcare units that provide care and treatment for PLHIV can use the reports and data from the NHSO information system to plan services and monitor treatment outcomes.
- 2 Technical:** Those agencies responsible for controlling the spread of disease at the provincial, regional, and national level can use the NAP data and reports to analyze the situation and trends of HIV/AIDS control and alleviation.
- 3 Policy decision-making:** National level agencies with responsibility for formulating policy on treatment and the HIV/AIDS service system can use the data from the NAP information system for policy decision-making and planning.<sup>27</sup>

# 8.2

## PROBLEMS WITH THE PREVIOUS INFORMATION SYSTEM AND IMPROVEMENTS IN THE NAP INFORMATION SYSTEM

The previous HIV/AIDS database of the NAPHA Project was an offline system, and it faced numerous limitations. For example, it was not possible to analyze data at the individual level, such as eligibility for benefits under the UCS. In addition, the system did not provide data on the number of service encounters and reimbursements for services rendered. Also, the data were not “real-time” and records were duplicated which led to inaccurate expenditure estimation and supply needs. This lagging information also disrupted the distribution of medicines to service providers. To address these limitations, the NHSO has improved the NAP information system.<sup>27</sup>

A significant change was shifting the data to an online system, and that enabled “real-time” monitoring of the situation and trends. The database system was centralized to create a picture of the national, regional, and provincial situations simultaneously. There were linkages between the NAP database and the Civil Registration system, which allowed tracking of births and deaths, along with the HIV/AIDS service statistics. The current NAP information system also included information for all beneficiaries, regardless of the health insurance scheme they were covered by. Information on individual PLHIV was kept strictly confidential using the person’s 13-digit national ID number for coding purposes. That number was then encrypted to ensure the anonymity of the data.<sup>6</sup>

The Thai NAP information system also integrates the three principal HIV/AIDS databases, as follows:

- 1** NAPHA
- 2** AIDS-OI, administered by the Bureau of Epidemiology of the DDC
- 3** The Perinatal HIV Intervention Monitoring System (PHIMS)

These linkages make the NAP information system nearly comprehensive for all policy, planning, and programming needs.<sup>27</sup>



## THE NAP INFORMATION SYSTEM COLLECTS THE FOLLOWING ESSENTIAL DATA

1

Record of the PLHIV

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2

Record of VCT

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3

PMTCT

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4

Laboratory tests and results

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5

Record of treatment and symptom monitoring, as indicated by the number of service encounters, starting with counselling, screening for OI, and medicines dispensed by condition

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6

Condom distribution statistics

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7

Data on positive prevention for sero-discordant couples

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8

Record of Prophylaxis for PMTCT

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9

Record of PrEP and PEP acceptors

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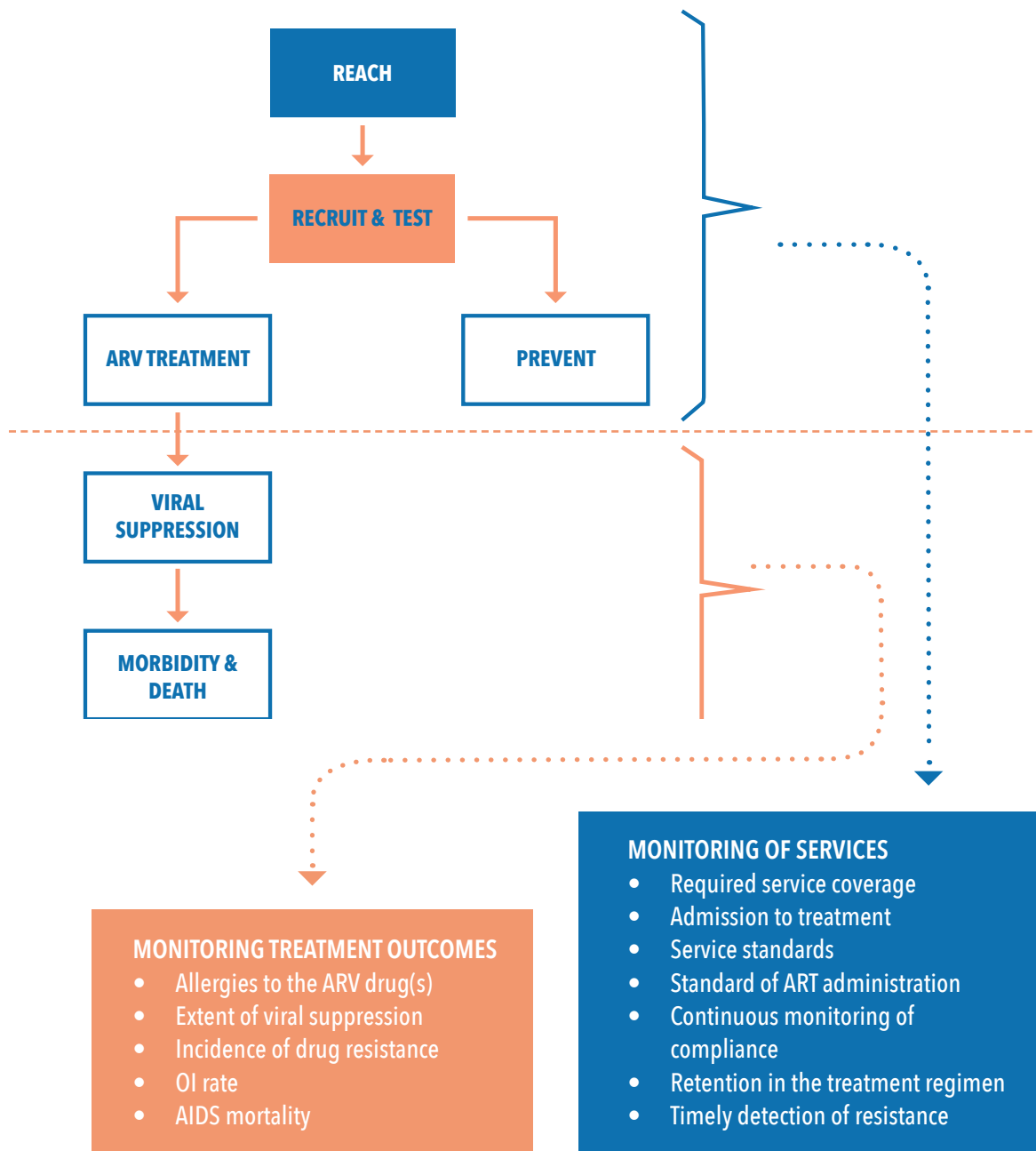


## 8.3

### **MONITORING AND EVALUATION (M&E)**

The NHSO, in collaboration with the MOPH and Thailand MOPH-US CDC Collaboration (TUC), conducts M&E on HIV/AIDS to inform policy decisions, make improvements in quality of services, track progress against indicator targets, assess treatment outcomes, and monitor case-finding. The NAP M&E framework covers services and outcomes from counselling, screening, ART, treatment (e.g., viral load), morbidity/mortality rates, and other indicators related to HIV/AIDS. All of this information is collected and analyzed to achieve the goal to end AIDS.<sup>28</sup>

**FIGURE 6: FRAMEWORK FOR MONITORING AND EVALUATION**



Source: Teeraratkul (2017)



## THE M&E SYSTEM OF THE NAP RELIES ON THE FOLLOWING DATASETS:

**1** The NAP information database system (as described above)

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**2** The ART Facility Annual Survey: This survey is conducted by the Bureau of AIDS, TB, and STIs (BATS) of the MOPH and has been done annually since 2011. The purpose of the survey is to assess the level and quality of care for PLHIV, dispensing of ARV drugs, and lab work related to HIV.

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**3** HIVQUAL-T annual survey: An annual facility-based survey to assess the quality of hospital services according to the standard guidelines. There are five indicators including

- 1 CD4 screening
- 2 retention of ART
- 3 opportunistic infection prevention
- 4 screening of co-morbidity
- 5 health promotion activities.

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**4** Sentinel surveillance: This survey is conducted annually or bi-annually by the Bureau of Epidemiology and BATS to monitor the status of high-risk populations with elevated risk for HIV, and to monitor the incidence and prevalence of ARV drug resistance.

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# 9

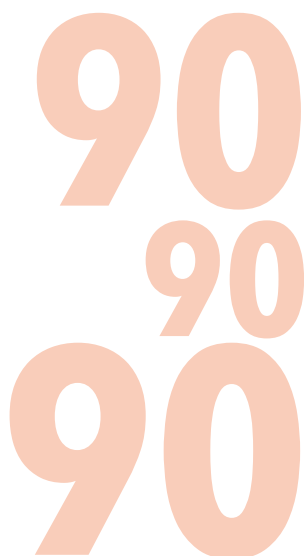
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## **INTEGRATION OF THE HIV/AIDS FUND**

Together, three public health insurance schemes cover nearly all Thai citizens who need or want insurance. These are the Civil Servants Medical Benefits Scheme, the Social Security System, and the UCS of the NHO. While the benefits package among the three schemes has differed in the past, much progress has been made to align the three systems into a unified and standardized package. The method of compensation for services rendered has also differed among the schemes. Standardizing these three systems is especially important for HIV case management since treatment is lifelong, and PLHIV are likely to switch among the three schemes. There needs to be a seamless transition across schemes, providers, and localities to ensure uninterrupted treatment compliance. In 2012, Thailand unified the HIV/AIDS services in the benefits packages of the three schemes to ensure that all PLHIV received the same standard quality treatment. The NAP information system collects data on services and beneficiaries in all three government insurance schemes to monitor this alignment.<sup>29,30,31,32</sup>

# 10

## ACHIEVEMENTS

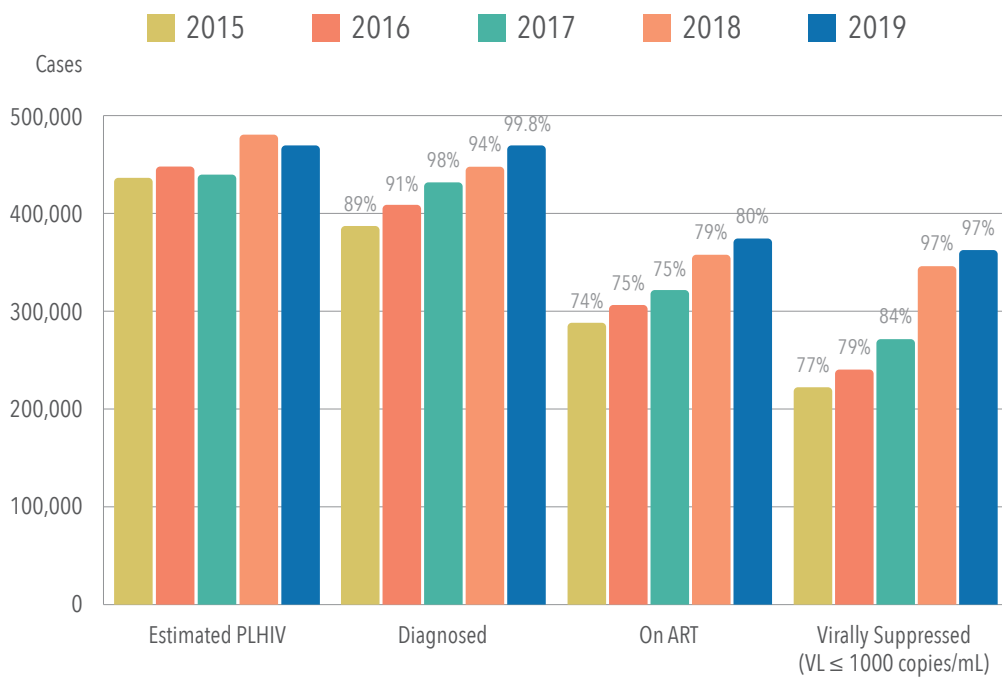


In 2016, Thailand announced the milestone of achieving the first 90% of the 90-90-90 targets for 2015-19 (i.e., 90% of PLHIV know their HIV status) (Figure 7). This achievement is the direct result of the outreach efforts of the government, private sector, CSO, and network of PLHIV. The CSO and network of PLHIV were instrumental in helping to reach the high-risk populations and recruiting new PLHIV into the treatment system.

At the time of this report, Thailand had not yet achieved the second 90 (i.e., 90% of people who know their HIV status are on ART). During 2015-19, the value for this indicator ranged from 70 to 80% and has been increasing gradually each year. The development of GPO-VIR® was a significant achievement that has made ART accessible to PLHIV in Thailand. The fact that this combination drug is included in the UCS benefits package ensures that cost is no barrier to ART.

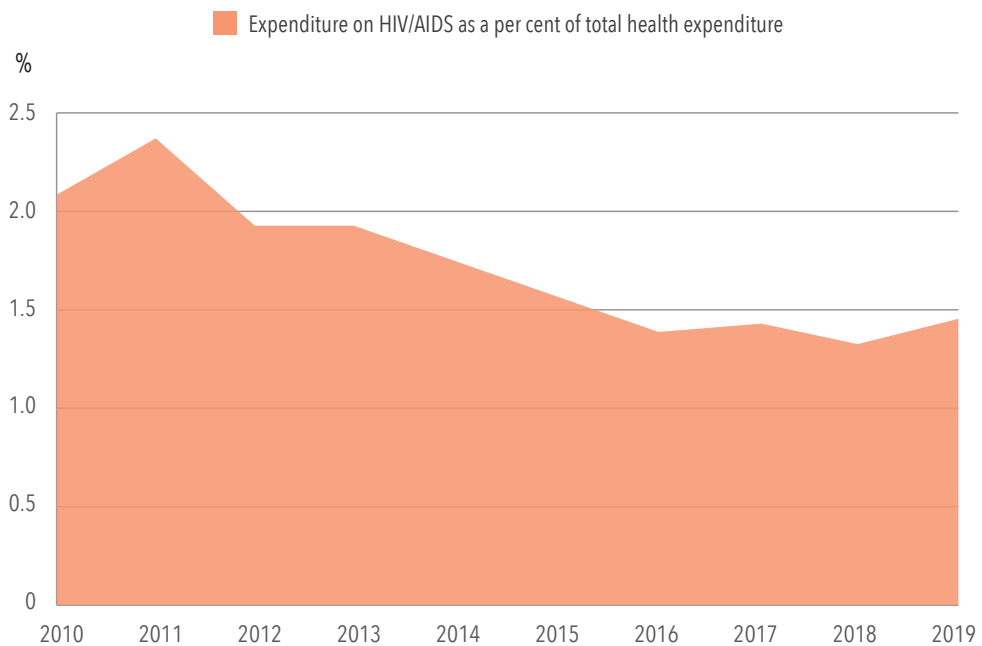
In 2018, Thailand achieved the third 90 (i.e., 90% of people accessing ART have VL  $\leq$  1,000 copies/mL). As of this report, 97% of PLHIV on ART had HIV VL  $\leq$  1,000 copies/mL. However, to maintain this level of viral suppression, all PLHIV need to adhere to the ART treatment regimen and keep their checkup appointments to detect drug resistance, as that could result in a resurgence of VL. Admittedly, there will always be obstacles to maintaining treatment adherence, such as travel constraints to keep resupply appointments, drop-out of treatment due to intolerable side effects from the ARVs, and other challenges. Thus, it is imperative that service providers and peer outreach volunteers effectively counsel PLHIV on coping with adverse conditions and help them realize the importance of uninterrupted ART. CSO and the network of PLHIV are especially critical in persuading the high-risk populations to remain in the treatment system and keep their checkup appointments. Another key to success for this indicator is the availability of 2nd- and 3rd-line ARV drugs since it is inevitable that a small percentage of PLHIV will develop resistance to the 1st-line therapy. The Thai government decision to invoke GUL for the 3rd-line drugs of Efavirenz and Lopinavir/Ritonavir ensured that these ARVs would be available and affordable to Thai PLHIV who need them.

**FIGURE 7: PROGRESS TOWARD ACHIEVING THE 90-90-90 TREATMENT CASCADE IN THAILAND: 2015-2019**



Sources: 1) NAP Web Report by the NHSO; 2) Thai GPO, and 3) Office of the Comptroller-General (March 25, 2020)

**FIGURE 8: EXPENDITURE ON HIV/AIDS IN THAILAND AS A PERCENT OF TOTAL HEALTH EXPENDITURE: 2010-19**



Source: Yaowaluk Waenwong, Chahida Wiriyathorn, and Wuthipan Wongmongkol



The Thai prevention and alleviation performance over the past three decades has been exemplary in combatting the HIV epidemic and caring for the nation's population of PLHIV. The 100% Condom Use program was exceptionally effective in reducing HIV transmission and increasing condom use in commercial sex. The level of condom use in commercial sex settings increased from 14% in 1989 to 94% in 1993, and that coincided with a reduction of incidence of sexual transmission of HIV by 79%. HIV prevalence among Thai army recruits declined from 2.5/100/year in 1991-93 to 0.6/100/year in 1993-95. In 2015, nearly all (96%) pregnant Thai and non-Thai migrant women who were HIV+ received PMTCT intervention, reducing the level of neonatal HIV infection to 2.1%.<sup>4</sup>

The NAP information system is one of the critical tools which has enabled PLHIV to access ART, regardless of where they are. The real-time, centralized database of the NAP enabled service providers in all participating healthcare units to access data on each PLHIV, including their diagnosis, treatment, ART formulation, history of drug resistance, and other key information for HIV case management. These data help service providers to make the most appropriate treatment decisions for each PLHIV in the timeliest way. The NAP information system is also helping to retain all PLHIV in the treatment and monitoring system.

The expenditure of HIV/AIDS prevention and alleviation in the most recent decade (2010-19) has been relatively constant, at the level of 7 to 9 billion baht per year. At the same time, total health expenditure increased from 380 billion baht in 2010 to 660 billion baht in 2019. Figure 8 compares the expenditure for HIV/AIDS with the total health expenditure by year. The data show that the proportion of HIV/AIDS expenditure of all health expenditures declined steadily from about 2% in 2010 and then plateaued at about 1.5%.<sup>18</sup> When compared against the steady progress toward the 90-90-90 targets, it can be asserted that Thai expenditure on HIV/AIDS has been cost-effective.

# 11

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## CHALLENGES

# 1

## DRUG RESISTANCE

Resistance to ARV drugs continues to be a challenge in PLHIV case management. Drug resistance makes control of the virus that much more complicated and expensive. That is because it requires further screening for starting 2<sup>nd</sup>- or 3<sup>rd</sup>-line ARV, and it is imperative to monitor the factors that give rise to drug resistance and prevent these from occurring.

## STIGMATIZATION RELATED TO HIV/AIDS

Negative stigma toward PLHIV/AIDS is still a problem in Thailand, and this has a particularly harmful effect on the high-risk populations in society. Stigma is a deterrent to seeking HIV VCT out of fear that others will notice and suspect them of being HIV+. This is particularly problematic because PLHIV must be diagnosed as early after infection as possible so that they can begin ART when it is most effective.<sup>33</sup>

# 2

# 3

## CONTROL OF HIV INCIDENCE

Despite the recent intensification of HIV control efforts, there continues to be a persistent caseload of new infections each year, especially among MSM. In addition, new HIV infections are gravitating toward the younger cohorts of Thais. Data from the Bureau of Epidemiology of the DDC indicate that HIV prevalence among MSM and young cohorts are increasing.<sup>35</sup> In particular, HIV incidence among male sex workers has been rising since 2014, and that indicator is a proxy for further spread among the general MSM population. In addition, HIV prevalence among pregnant women appearing at ANC clinics has shown a rising trend since 2016. The increase is small but noticeable, as HIV prevalence among pregnant women increased from 0.55% to 0.60% in 2018. What is more, HIV infection is more common for women in their 1st pregnancy, and that is another indicator of HIV spread among the younger generation.<sup>35</sup>

## SUPPORTING CIVIL SOCIETY AND PLHIV GROUPS IN CONDUCTING OUTREACH

# 4

The CSO and network of PLHIV are critical allies in conducting outreach. As noted, peer volunteers in CSO are more adept at approaching members of risk populations than official government personnel. Outreach is also crucial for those individuals who cannot go for services at a healthcare unit. For example, during the 2011 flood disaster, many Thais were stranded in their home communities or domicile and could only receive services by outreach. Similarly, during periods of Covid-19 lockdown, CSO personnel were mobilized to reach out to individuals and communities whose ability to travel was restricted. Peer volunteers provided a vital link in the distribution system to ensure that ARV drugs reached PLHIV. The NHSO supported CSO for these outreach activities in the lump-sum payment method. However, the funds are not always adequate to cover the cost of additional operations. That means that the CSO have had to seek supplemental funding to make ends meet and achieve their coverage targets.<sup>17</sup> Still, the direct support from the NHSO to CSO and the network of PLHIV is vital to facilitate and maintain contact with PLHIV and risk populations. The members of these groups appreciate the financial incentive and the social recognition for being productive members of society.<sup>17</sup>

# 5

## THE LACK OF HEALTH SERVICE PERSONNEL

During the past two decades, Thailand has successfully provided ART to PLHIV throughout the nation. However, the number of PLHIV needing ART is still growing due to the intensified screening and testing. Ironically, ART is prolonging the lives of PLHIV; thus, contributing to the growing caseload who need lifelong treatment. These rising caseloads are placing an increased burden on the health care system and personnel. One way to ease this workload is to reduce the frequency of checkups for uncomplicated cases of HIV infection.<sup>34</sup> In addition, counselling can be conducted by telemedicine to healthcare units that lack an HIV/AIDS specialist. Further, peer-based service to vulnerable populations reduces the burden on the local health care providers in the hospitals and clinics.<sup>34</sup>

# 12

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## SUMMARY

Thailand was exceptionally responsive since the first HIV case was reported in 1984. However, large, unpredictable HIV outbreaks in various parts of the country in the late 1980s posed a significant challenge for prevention and, later, alleviation of disease. Thus, the National AIDS Prevention and Alleviation Committee, with collaboration among the government and private sectors, CSO, and PLHIV support groups, was established to tackle this problem. While the Thai MOPH was the first to underwrite the cost of the NAP, the NHSO is currently the principal institution which funds HIV/AIDS control and alleviation around the country.

The path to achieving universal ART for the Thai population was not easy. However, in only 16 years after the HIV epidemic began, Thailand achieved universal coverage of ART. This milestone was the culmination of domestic and international support including, for example, the Global Fund and the Thai GPO, and advocacy by CSO and PLHIV groups.

The NHSO continues to support HIV-related treatment in healthcare units, and funds CSO and PLHIV for outreach through the network of CCC. These activities are an indispensable adjunct to the mainstream healthcare service.

In the quest to end AIDS, Thailand has already achieved the first and third 90s of the 90-90-90 treatment cascade. The challenge now is the second 90 (i.e., 90% of people who know their HIV+ status are on ART).

Despite all these impressive achievements, Thailand still faces challenges in preventing and responding to HIV/AIDS. There are segments of Thai society that still harbor negative attitudes and practice discrimination against PLHIV. These prejudices are relics of the early days of the epidemic when contracting HIV was a virtual death sentence. Still, the lingering stigma is a formidable barrier to persons who suspect they might be infected from seeking VCT and, if HIV+, treatment. The discrimination affects delaying entry into treatment until the PLHIV is already experiencing OI, and when the ART effectiveness is reduced. Another challenge in the coming years will be the inevitable emergence of resistance to ARV drugs. That will require increased dependence on the more expensive 2nd- and 3rd-line ART regimens. This means that monitoring of PLHIV once they start ART is of increased importance since any drug resistance must be detected at the earliest stage possible to maintain VL at the lowest possible level. The need for frequent in-person checkups is placing a growing burden on the health care system, and the number of personnel in the mainstream health system may one day be inadequate to meet the service need. Thus, new service delivery models, such as community-led HIV services, are urgently needed to retain PLHIV in the care system and encourage all persons with HIV risk behavior to attend VCT.

# REFERENCES

1. UNAIDS. Thailand Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections. [https://data.unaids.org/publications/fact-sheets01/thailand\\_en.pdf](https://data.unaids.org/publications/fact-sheets01/thailand_en.pdf). Accessed April 11, 2021.
2. Punyacharoensin N, Viwatwongkasem C. Trends in three decades of HIV/AIDS epidemic in Thailand by nonparametric back-calculation method. *AIDS* 23(9); 2009. DOI: 10.1097/QAD.0b013e32832baa1c.
3. Chaiyos Kunanuson, AIDS: Problems, Impacts and Response of Thailand. 1st edition Nonthaburi: AIDS Division, DDC, MOPH; 2000.
4. Siraprasiri T, Ongwangdee S, Benjarattanaporn P, Peerapatanapokin W, Sharma M. The impact of Thailand's public health response to the HIV epidemic 1984-2015: understanding the ingredients of success. *Journal of Virus Eradication*. 2016;2 (Supplement 4):7-14.
5. Rojanapithayakorn W. The 100% Condom Use Programme in Asia. *Reproductive Health Matters*. 2006; 14(28). DOI: 10.1016/S0968-8080(06)28270-3.
6. Ingun P, Narkpaichit C, Laowahutanon T, Rekakanakul R, Pusamang A, Kesthom K. Integrated National Health Information System of HIV/AIDS in Thailand: Case of NAP application. *Journal of the Thai Medical Informatics Association*. 2015;2.
7. Celina S. Overview of the Global Fund to Fight AIDS, Tuberculosis and Malaria. <https://www.cgdev.org/sites/default/files/archive/doc/HIVAIDSMonitor/OverviewGlobalFund.pdf>. Accessed December 5, 2020.
8. Chalernpol Chamchan, Kanya Apipornchaisakul, Apichat Chamratritirong, Sureeporn Phunpung, Nakorn Preamsri, and Busaya Tantisak. Success and challenges in AIDS work in the multinational population in Thailand under the Global Fund project. 1st edition. Nakorn Pathom: Institute for Population and Social Research, Mahidol University; 2016.
9. Revenga A, Over M, Masaki E, Peerapatanapokin W, Gold J, Tangcharoensathien V, Thanprasertsuk S. The Economics of Effective AIDS Treatment: Evaluating Policy Options for Thailand. Washington DC: World Bank; 2006.



10. Government Pharmaceutical Organization. Annual Report 2002. <https://www2.gpo.or.th/Default.aspx?tabid=96>. Accessed on November 28, 2020.
11. Tantivess S, Walt G. The role of state and non-state actors in the policy process: The contribution of policy networks to the scale-up of antiretroviral therapy in Thailand. *Health Policy and Planning*. 2008(23). doi:10.1093/heapol/czn023.
12. Siritwat Thiptharadol, Weerawan Tangkaew, Nipaporn Chaiwat, Vinit Asawakitwiri, Nirat Tiasuwan, Daranee Phencharoen, Suchart Jongprasert, Pornpak Wongthongprat, Sirikulampon, Phutsadee Vejchapipat, Witsanurot Ruangrai, Chulalak Niponkaew and Suksri Ungboriboonpaisan. Experience of negotiating prices for essential drugs which are on patent. 2nd edition Nonthaburi: Food and Drug Administration MOPH; 2009.
13. Yamabhai I, Mohara A, Tantivess S, Chaisiri K, Teerawattananon Y. Government use licensing in Thailand: An assessment of the health and economic impacts. *Globalization and Health*. 2011;7(28). DOI: 10.1186/1744-8603-7-28.
14. National Committee for HIV and AIDS Prevention and Alleviation. Report on the progress of Thailand's response to AIDS: 2017. 1st edition, Nonthaburi: National AIDS Management Center, BATS, Department of Disease Control, MOPH; 2017.
15. UNAIDS. 90-90-90 an ambitious treatment target to help end the AIDS epidemic. [https://www.unaids.org/sites/default/files/media\\_asset/90-90-90\\_en.pdf](https://www.unaids.org/sites/default/files/media_asset/90-90-90_en.pdf). Accessed January 6, 2021.
16. Ford N, Wilson D, Cawthorne P, Kumphitak A, Kasi-Sedapan S, Kaetkaew S, Teemanka S, Donmon B, Preuanbuapan C. Challenge and co-operation: civil society activism for access to HIV treatment in Thailand. *Tropical Medicine and International Health*. 2009;14(3):258-266. DOI: 10.1111/j.1365-3156.2009.02218.x.
17. Pudpong N, Patcharanarumol W, Tangcharoensathien V, Viriyathorn S, Kulthanmanusorn A, Witthayapipopsakul W, Wanwong Y, Wangbanjongkun W, Pongkantha W. Effective Contracting Model for HIV Service Delivery in Thailand. 1st ed. Nonthaburi: International Health Policy Program (IHPP); 2019.
18. Yaowalak Waenwong, Shaheed Wiriyathorn, and Wuttiphan Wongmongkol. Expenditures for AIDS Operations of Thailand: 2018-2019: International Health Policy Development Office MOPH

19. NHSO. Handbook for Management of the National Health Security Fund: Fiscal Year 2017: Volume 2 Budget for management of services for PLHIV and AIDS and TB patients. 1st edition. Bangkok: NHSO; 2016.
20. NHSO. Handbook for Management of the National Health Security Fund: Fiscal Year 2021: 1st printing. Bangkok: NHSO; 2020.
21. Bhakeecheep S. The universal access to antiretroviral treatment programme. In: Quan A, ed. The Journey of Universal Access to Antiretroviral Treatment in Thailand. Bangkok: United Nations Development; 2017. p. 39-49.
22. NHSO. Handbook for Management of the National Health Security Fund: Fiscal Year 2020. 1st printing. Bangkok: NHSO; 2019.
23. (NHSO Announcement for FY 2021) National Health Security Board. Criteria for Implementation and Management of the National Health Security Fund for 2021; Criteria, Procedures and Conditions for Reimbursing Expenses for Services of Service Providers. 2020. Royal Gazette Volume 138, Special Section 38 Ngor (dated February 17, 2021).
24. Department of Disease Control, MOPH. Guidelines for the Screening, Treatment and Prevention of HIV Infection Thailand, 2014. 1st edition, Nonthaburi: Bureau of AIDS, Tuberculosis and Sexually Transmitted Diseases, Department of Disease Control, MOPH; 2014.
25. Chutima Akaleiphan, Pattara Leelawarong, Jirawit Yadi, Chutima Khamdee, Oraphan Onchon, and Kamonwan Kheangnil. Final report. A review of the system and development of a proposal for the administration of essential medical supplies with access problems under the UHC scheme. Accessed on December 29, 2019.
26. NHSO. Handbook for Management of the National Health Security Fund: Fiscal Year 2016. Volume 2. Budget for management of services for PLHIV and AIDS and TB patient budget management. 1st edition. Bangkok: NHSO; 2016.
27. Poosam-ang A. The information system for the universal access to ART programme. In: Quan A, ed. The Journey of Universal Access to Antiretroviral Treatment in Thailand. Bangkok: United Nations Development; 2017:51-53.

28. Teeraratkul A. Monitoring and evaluation framework for the universal access to ART programme. In: Quan A, ed. The Journey of Universal Access to Antiretroviral Treatment in Thailand. Bangkok: United Nations Development; 2017:55-60.
29. Piya H. UNICO Study Series 20 Health Financing Reform in Thailand: Toward Universal Coverage under Fiscal Constraints. Washington DC: The World Bank; 2013.
30. Tangcharoensathien V, editor. The Kingdom of Thailand health system review, Health Systems in Transition vol. 5 no. 5. Geneva: World Health Organization; 2015.
31. Division of AIDS and STIs, Department of Disease Control, Ministry of Public Health. Thailand Getting to Zero. [https://hivhub.ddc.moph.go.th/Download/Report/APR/2011/AIDS%20progress%20report\\_2011.pdf](https://hivhub.ddc.moph.go.th/Download/Report/APR/2011/AIDS%20progress%20report_2011.pdf). Accessed February 28, 2021.
32. National Committee for HIV and AIDS Prevention and Alleviation. Report on the progress of Thailand's response to AIDS: 2014. 1st edition Nonthaburi: National AIDS Management Center, BATS, Department of Disease Control, MOPH; 2014.
33. Kwangkaew A. Strategy for a comprehensive continuum of care: perspectives from people living with HIV in Thailand. In Quan A, ed. The Journey of Universal Access to Antiretroviral Treatment in Thailand. Bangkok: United Nations Development; 2017:79-82.
34. Thanprasertsuk S. The universal access to ART programme in Thailand: Challenges. In: Quan A, ed. The Journey of Universal Access to Antiretroviral Treatment in Thailand. Bangkok: United Nations Development; 2017:89-90.
35. Bureau of Epidemiology, Department of Disease Control, MOPH. Prevalence of HIV Infection Thailand, 2018. 1st edition, Nonthaburi: Bureau of Epidemiology, Department of Disease Control, MOPH; 2019.

## **MANAGEMENT OF THE HIV/AIDS FUND OF THE NATIONAL HEALTH SECURITY OFFICE**

Project on Knowledge Management, Lesson Learnt Reflection, and Dissemination of National Health Security Office [NHSO]

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